

Appendix 2

Percent Identity

	1	2	3	4	5	6	7	
1	■ 59.0	65.9	31.5	57.4	28.2	74.5	1	BB1085 SEQ ID NO:10
2	53.3	■ 80.5	33.9	74.7	30.8	65.3	2	BB1085 SEQ ID NO:8
3	41.2	22.1 ■	26.8	93.6	22.7	68.2	3	BB1085 SEQ ID NO:12
4	140.9	125.1	146.4 ■	32.7	53.8	30.7	4	BB1085 SEQ ID NO:14
5	55.0	28.9	4.3	135.5 ■	31.9	63.3	5	BB1085 SEQ ID NO:16
6	149.4	133.7	158.0	64.2	126.9 ■	24.8	6	BB1085 SEQ ID NO:18
7	23.7	46.4	38.2	143.7	44.8	155.4 ■	7	BB1085 SEQ ID NO:20
	1	2	3	4	5	6	7	

Divergence

	10	20	30	40	50	60	
1	MGSTIMSPPSFPVVILL-LIATIARRAGSNMDEEVVDDLQYIILDNSDDIPTNDPDGWP						BB1085SeqIdNo10
1	R--EEPDEAA-----GASAH-----RHLPDF----DGFEGGAE---D						BB1085SeqIdNo8
1	A--RV-----T-----						BB1085SeqIdNo12
1	M--RILVVVLSSLFLTLCDDLTDD-----EDLGFL--DEPSAAPE---H						BB1085SeqIdNo14
1	-ARDHAELLIG-----						BB1085SeqIdNo16
1							BB1085SeqIdNo18
1							BB1085SeqIdNo20
	70	80	90	100	110	120	
60	GDYDDDDLLFQDQDQLTGH-QPEIDETHVVVLAANFSSFLASSHHVMVEF						BB1085SeqIdNo10
29	EDF-GDFSDFEDSDADRDEYKAPEVDEKDVVVVKEGNFSDFVEKNRFVMVEF						BB1085SeqIdNo8
4	-						BB1085SeqIdNo12
2	GHYHDDDANFGDFEEEDPPEAYKQPEVDEKDVVILKEKNNFTDTVKSNRFVMVEF						BB1085SeqIdNo14
45	GHYHDDDANFGDFEEEDPPEAYKQPEVDEKDVVILKEKNNFTDTVKSNRFVMVEF						BB1085SeqIdNo16
12	-						BB1085SeqIdNo18
1	-						BB1085SeqIdNo20
	130	140	150	160	170	180	
119	ETAPPGLSRRRAHRAESTNQPRPNFAKAVVAVVTDIAKRDYDGTPEAILF						BB1085SeqIdNo10
88	ATAPKEYAAATEIKGE-----NVVTAKKVAVVNEISQKDDYDGTPEVY						BB1085SeqIdNo8
4	-						BB1085SeqIdNo12
2	-						BB1085SeqIdNo14
105	QALNEYAAATEIKGE-----DVIILKVDATNEIACQAVVCGFDTWHE						BB1085SeqIdNo16
20	QTEMFRFMEAAATRAMGSA-----VAETAKLEGGERYPKAAAVGK						BB1085SeqIdNo18
1	-						BB1085SeqIdNo20

		190	200	210	220	230	240
179	IN QARKE ANY D M N E K L C P A V Q V E D E A Q S I T G D D R A Y A F L D T I S C A H E D E L V A A						BB1085SeqIdNo10
142	P E Q R T R K M T V T K K X I Q P G Y N I S E D A E R I A T S E T V V A E Y I N S L V E P E N E L V A A						BB1085SeqIdNo8
4	-						BB1085SeqIdNo12
2	-						BB1085SeqIdNo14
159	W N S Q R W K E A L Y M T G G R I E G Y N L T T Y E D A Q R R E T N E T V V E F I N S U V G P E S E E L V A A						BB1085SeqIdNo16
76	W H E L H W K D M T V R K R T G E P A I R L Q S K D S A E E F K K D M T F V I C L F K N F E C A D H E S F V R K A						BB1085SeqIdNo18
1	-						BB1085SeqIdNo20
		250	260	270	280	290	300
239	S R E P S I N Y Q O S T P D W A R K I E D D A A K R P S V V L K R E E K H I L T F Y D E S K A M A T G V F N A						BB1085SeqIdNo10
202	S R E P S I N Y Q O S T P D W A R K I E D D A A K R P S V V L K R E E K H I L T F Y D E S K A M A T G V F N A						BB1085SeqIdNo8
4	S R E P S I N Y Q O S T P D W A R K I E D D A A K R P S V V L K R E E K H I L T F Y D E S K A M A T G V F N A						BB1085SeqIdNo12
2	-						BB1085SeqIdNo14
219	S R P E P D Y N I Q O S T V D E D Q A K E T H I D P D V K E A L I V K E E P A K L N H D E C K T C K S E E D T V F S						BB1085SeqIdNo16
136	A T T D N E Q O F V E S T R V A K V L F P G I T S E E K F V G I V K S P P R F E K D E K C E T E J L R V E L						BB1085SeqIdNo18
1	-						BB1085SeqIdNo20
		310	320	330	340	350	360
299	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo10
262	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo8
4	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo12
2	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo14
279	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo16
196	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo18
15	S R F D M Y K H I M N S I R Y E E T H L Q V E R N I D E F K N K I E T L Q D V A N T F R S K I M F I Y D I						BB1085SeqIdNo20

359	DSEEVYEEPEADYVCTTQETVLA	FIDDDYSTEAKNDPAA	EDKLT	BB1085SeqIdNo10	
322	DNEEVYEEPEVCTTQETVLA	STKTYAKDGEK	EDDKL	BB1085SeqIdNo8	
6	DNEEVYEEPEVCTTQETVLA	STKTYAKDGEK	EDDKL	BB1085SeqIdNo12	
62	NDENLAKEFELTLEESKNIVVA	AFDNAMSSYLL	ECKPT	BB1085SeqIdNo14	
339	DNEEVYEEPEVCTTQETVLA	ESKNIVVA	EDKPT	BB1085SeqIdNo14	
256	AEPNLAEFELTYELESEKKPTV	TARDFTSN	EDKPT	BB1085SeqIdNo16	
75	NNEEVYEEPEVCTTQETVLA	YLMEDINAN	EDKPT	BB1085SeqIdNo18	
		REFCLSLUDGTE	EDKPT	BB1085SeqIdNo20	
		QDMDR	EDKPT		
		S	EDKPT		
370	380	390	400	410	420
419	YKQEDEWPSVWV	IYVCKNDLTVF	DETTKVN	EDKPT	BB1085SeqIdNo10
382	YKQDIISETM	WVWDNTEN	SKV	EDKPT	BB1085SeqIdNo8
66	YKQDIISETM	WVWDNTEN	SKV	EDKPT	BB1085SeqIdNo12
122	FHQSI	DNTESSHVI	DESKV	EDKPT	BB1085SeqIdNo14
399	YKQDIISETM	WVWDNTEN	SKV	EDKPT	BB1085SeqIdNo16
316	HQEEL	QEK-	DESKV	EDKPT	BB1085SeqIdNo18
135	HQEEL	QEK-	DESKV	EDKPT	BB1085SeqIdNo20
430	440	450	460	470	480
490	500	510	520	530	540
479	SV	VAKHEDTNEPRAK	SPYD	EDKPT	BB1085SeqIdNo10
442	AT	DELVAKHEDTNEPRAK	SPYD	EDKPT	BB1085SeqIdNo8
126	N	ESNVAKHEDTNEPRAK	SPYD	EDKPT	BB1085SeqIdNo12
182	ESSNLIPARI	ASAN	SPYD	EDKPT	BB1085SeqIdNo14
459	NTEEV	EVAKHEDTNEPRAK	SPYD	EDKPT	BB1085SeqIdNo16
375	ESONIKFRI	DAVNUEDKL	SPYD	EDKPT	BB1085SeqIdNo18
195	EDPSLW	EVAKHEDTNEPRAK	SPYD	EDKPT	BB1085SeqIdNo20

	550	560	570	580
539	WIKRQE	---RTESRAEV	---	KSEETNSKQEI
502	PFKVKRDKVSSPKAVS	SEAKS	DAKESP	KETTLEKDEI
186	PFKVKRDKVSSPKAVS	SEAKS	DAKESP	KETTLEKDEI
241	KVK	---	SEAKS	SEAKS
519	PFKVKRDKVSSPKAVS	SEAKS	DAKESP	SEAKS
434	QTE	---	DVETVAAAPPN	---
255	PFKVKRDKVSSPKAVS	AEGPQRST	SEAKS	SEENPKVKEI

BB1085SeqIdNo10
 BB1085SeqIdNo8
 BB1085SeqIdNo12
 BB1085SeqIdNo14
 BB1085SeqIdNo16
 BB1085SeqIdNo18
 BB1085SeqIdNo10
 BB1085SeqIdNo20

Shade (with black at 40% fill) residues that match BB1085 SEQ ID NO:10 exactly.